| | |
|---|---|
| **NWS Form E-5**<br>U.S. DEPARTMENT OF COMMERCE<br>NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE<br><br>**MONTHLY REPORT OF HYDROLOGIC CONDITIONS** | **HYDROLOGIC SERVICE AREA:**<br>Pocatello, Idaho (PIH)<br><br>**REPORT FOR:**<br><br>**MONTH:** June **YEAR:** 2017 |
| **TO:** Hydrologic Operations Division, W/OH2<br>National Weather Service<br>National Oceanic and Atmospheric Administration<br>Silver Spring, Maryland 20910 | **SIGNATURE**<br><br>Travis Wyatt<br>Service Hydrologist / Acting<br><br>**DATE:** July 14, 2017 |
| When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (NWS Instruction 10-924). | |

☐ **An X in this box indicates that *no* flooding has occurred for the month within this hydrologic service area.**

**Overview:**

All of the area except Butte County, Eastern Teton County and the Western Central mountains saw below normal precipitation for the month. The five climate stations (Burley, Challis, Idaho Falls, Pocatello and Stanley) ranged from 0.76 inch of precipitation (0.11 below average) for Burley to 1.44 inches of precipitation (0.05 above average) for Stanley. There were two precipitation records in the month of June for our 5 climate locations, one record in Challis and one in Stanley. The highest recorded monthly precipitation totals (non-SNOTEL and non-RAWS) were 2.12 and 1.95 inches at the Ashton and St. Anthony CO-OP stations. The highest recorded 24-hr precipitation (non-SNOTEL and non-RAWS) occurred at the Ashton and Driggs CO-OP stations where 1.17 and 1.12 fell respectively on the 13th and 12th. All basins except the Salmon, Snake above Palisades and Henry's Fork were below normal. Basin ranged from 43 to 110 percent of normal. The basins receiving the greatest precipitation were the Salmon above Salmon, Snake above Palisades and the Henry's Fork receiving 110%, 104%, and 103% of average precipitation respectively for the month of June-based on SNOTEL data. The basins receiving the least precipitation were the Cub, Bear, and the Big Lost receiving 43%, 50%, and 62% of average precipitation respectively for the month of June-based on SNOTEL data.

Mean average temperatures ranged from 51.8 degrees F for Stanley to 67.9 degrees F for Shoshone across the HSA. Most of the area had temperatures 1 to 4 degrees above normal. The five climate stations ranged from 1.6 above normal for both Challis and Idaho Falls to 3.4 above normal for Stanley. There were two high temperature records in the month of June for our 5 climate locations, both in Idaho Falls. Of the data available for the month, the stations (non-SNOTEL and non-RAWS) within the HSA reaching the highest 24-hour temperatures were Shoshone and Minidoka Dam COOP stations both reaching 99°F on the 20th and 8th respectively. The station (non-SNOTEL and non-RAWS) with the lowest recorded temperature were the Chilly Barton Flat and Stanley COOP stations at 22°F and 23°F respectively on the 23rd and 11th .

For the month of June, rivers saw increases/peaks after a strong warm up the first week of the month that continued over from May. There was a significant cool down around the middle of the month and then a strong warm-up for the remainder of the month. The Big Wood river remained at near record levels the first week in June before dropping significantly after a strong cool down. Then with another strong warm-up, the Big Wood peaked again on approximately June 21st. Significant flooding continued particularly to roads and homes in the Gimlet and Della View Subdivision. Areas along Trail creek near the Big Wood had significant impacts as well. Some minor flooding, mostly field flooding, occurred early in the month along the Big Wood river below the

Magic reservoir with more significant flooding occurring in Gooding county. The Big Lost river above the Mackay reservoir had flooding, at different levels, the entire month impacting some roads and homes. The Mackay reservoir filled around the 9th and flooding starting to occur on the Big Lost river below Mackay reservoir. A temporary dike was built on the main highway near Leslie to keep the highway open. A few other back roads were flooded as well. In addition, there were a few homes with water in their basements. The main flooding occurred on the 13th. The flooding mostly subsided other than field flooding with a brief cool-down and then came back on approximately June 25th after another strong warm-up. The Teton River went to minor flooding on around the 11th and then dropped significantly and then went back to minor flood on approximately June 25th peaking slightly higher than the 11th. Multiple streams flooded their banks including Fox creek near Victor peaking around June 22nd. A couple culverts were damaged as well as several back roads and the one main bike path were flooded. An Areal flood warning was in effect the whole month for high elevations for Custer and Blaine counties. Multiple backcountry roads, trails, and campgrounds were flooded and damaged in the Central Mountains and Big Lost River range. Multiple roads and trails remain flooded and not accessible.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the Eastern Idaho forecast is a 40 to 50 percent chance for above normal temperatures and equal chances for above or below normal precipitation. The one-month forecast graphics are below, and are very similar to the 8 to 14 day forecast. For the three-month outlook, the temperature forecast is a 33 to 40 percent chance to be above normal. As for three-month outlook for precipitation, the outlook is equal chances for above or below normal.

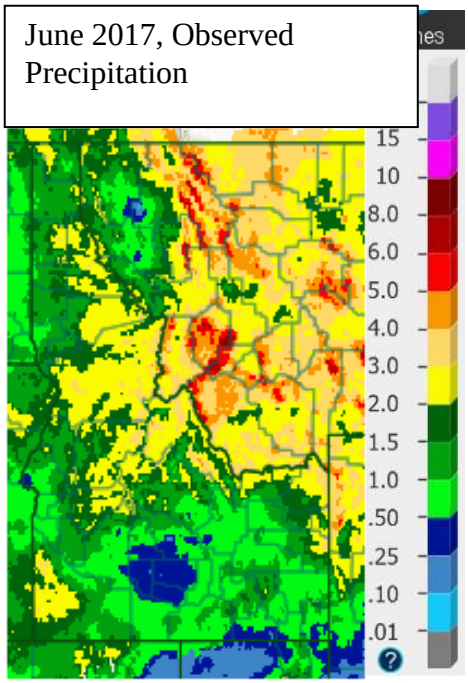
Reservoirs last month overall decreased storage in the Upper Snake River basin system and are currently sitting at 100% of capacity overall for capacity in the Upper Snake River system. Compared to last year at this time, it was about 60% of capacity. As of July 12, 2017, Milner, Oakley, Bear Lake, and Blackfoot have the lowest percent of average capacity at 70%, 70%, 93% and 95% of average respectively. All other reservoirs are at or near 100% capacity.

Current streamflow conditions in Eastern Idaho are high for the headwaters of the Salmon River, Big Wood River, and Big Lost River basins. Streamflow conditions are much above normal for the majority of the Big Wood River, Big Lost River, and Salmon River basins as well as the Teton River, Portneuf River and Upper Snake River basins. The rest of the basins are normal to above normal. (see USGS streamflow graphic below).

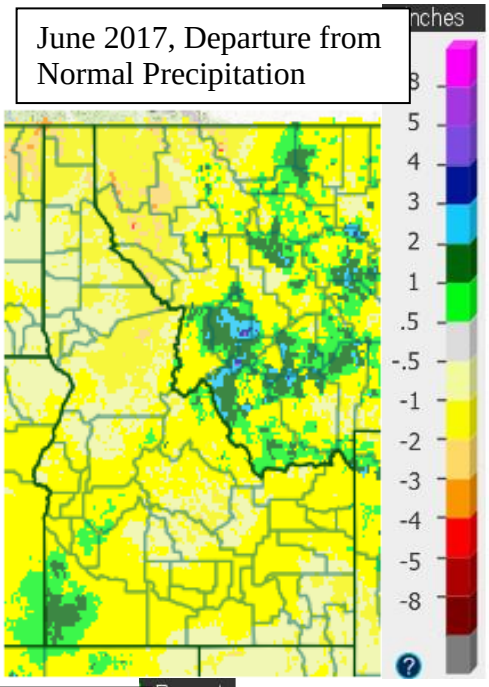
Drought conditions across eastern Idaho continue to be 0 percent in June as reflected on the latest U.S. Drought Monitor. The latest update of the U.S. Seasonal Drought Outlook shows no change for the eastern Idaho's drought outlook forecast.

**Precipitation:**

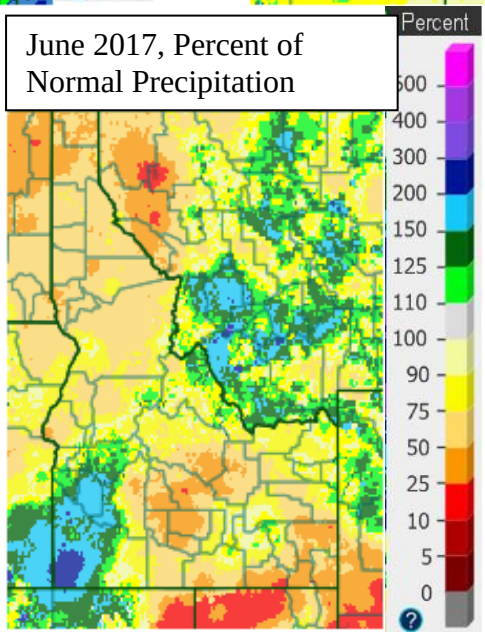
June 2017, Observed Precipitation



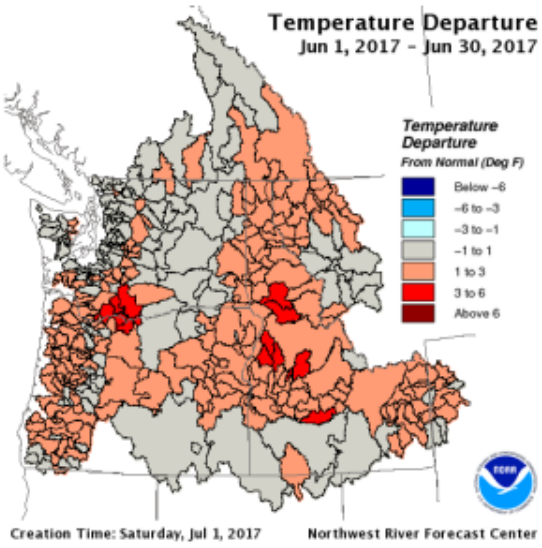

June 2017, Departure from Normal Precipitation

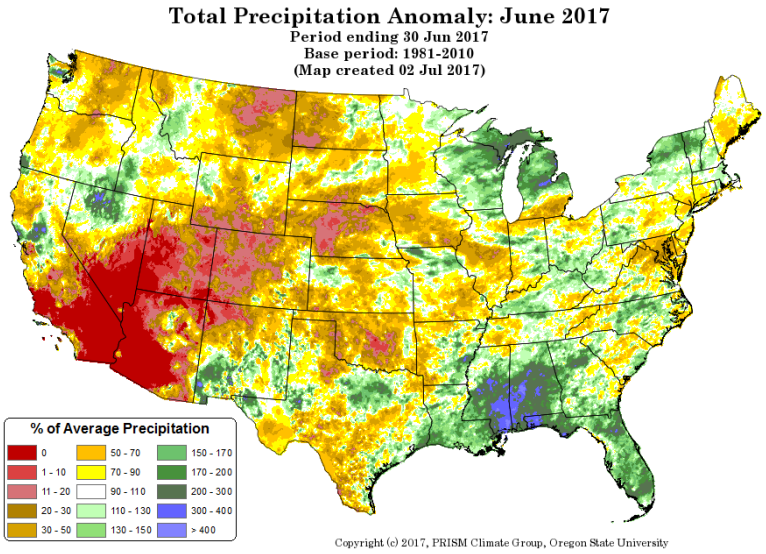



June 2017, Percent of Normal Precipitation



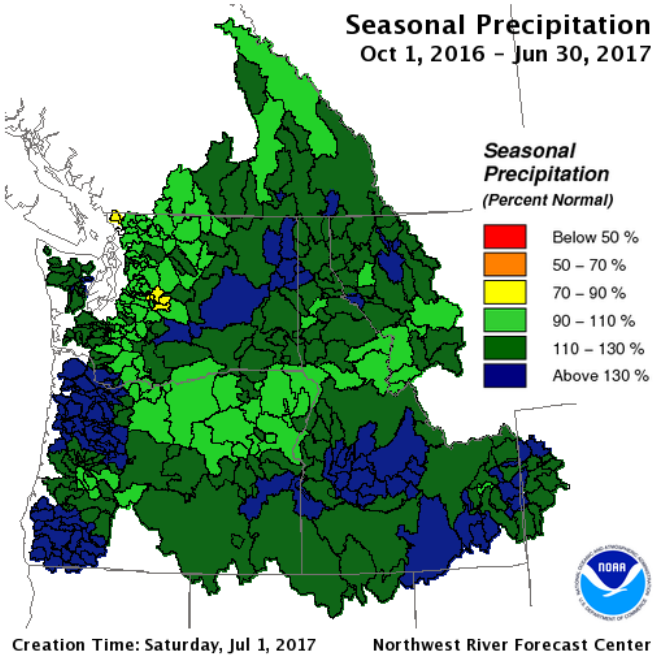

**http://water.weather.gov/precip/**

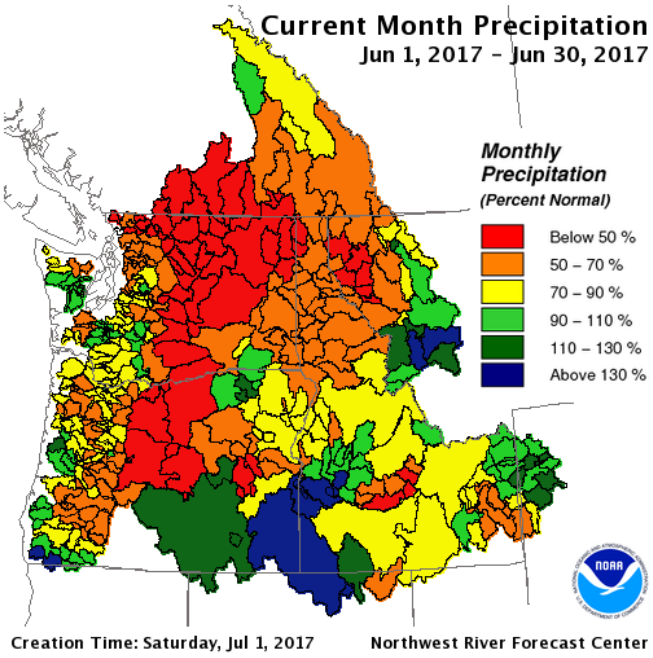



https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20170701/CurMonMAT_2017Jun30_2017070117.png

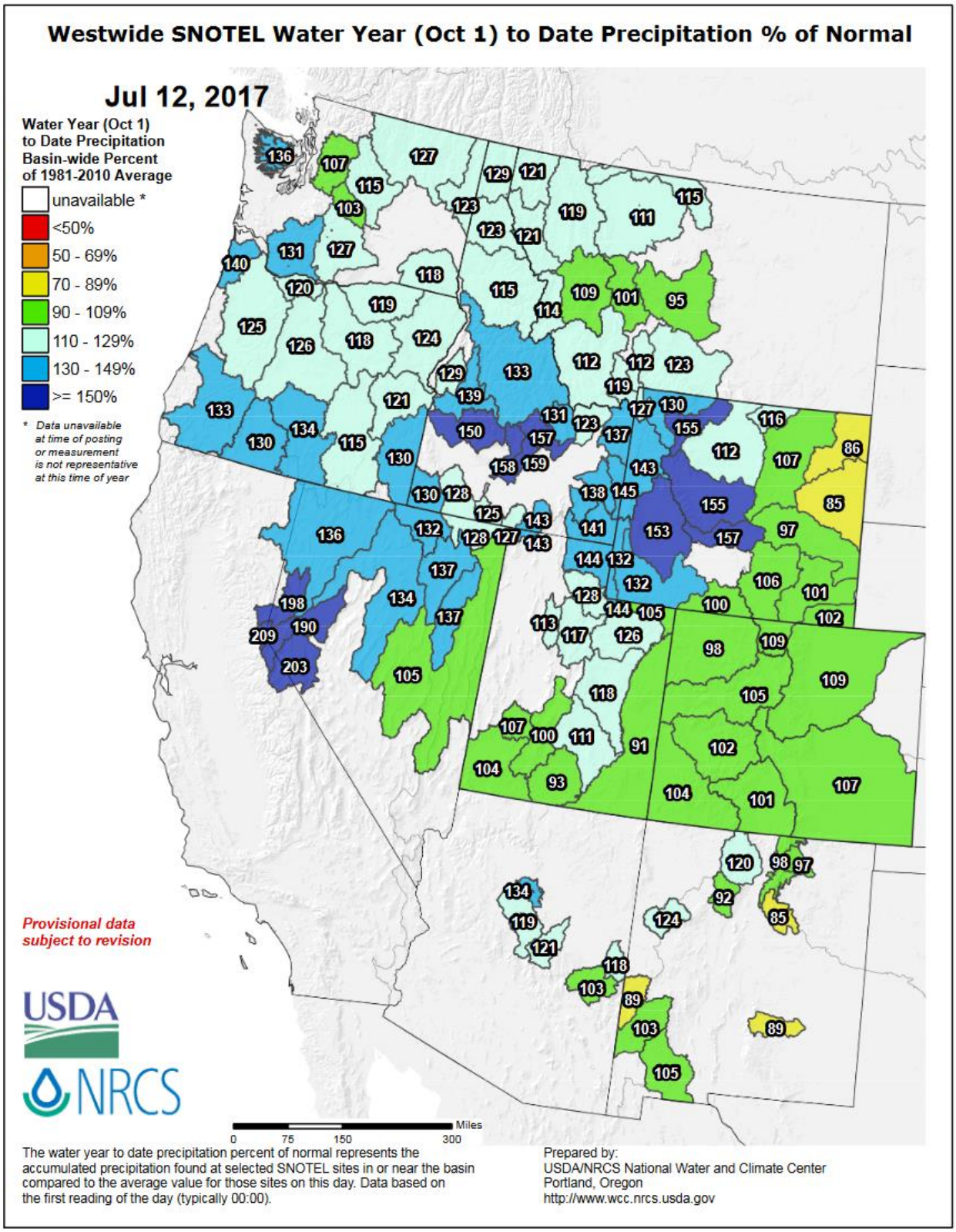
**http://prism.oregonstate.edu/comparisons/anomalies.php**



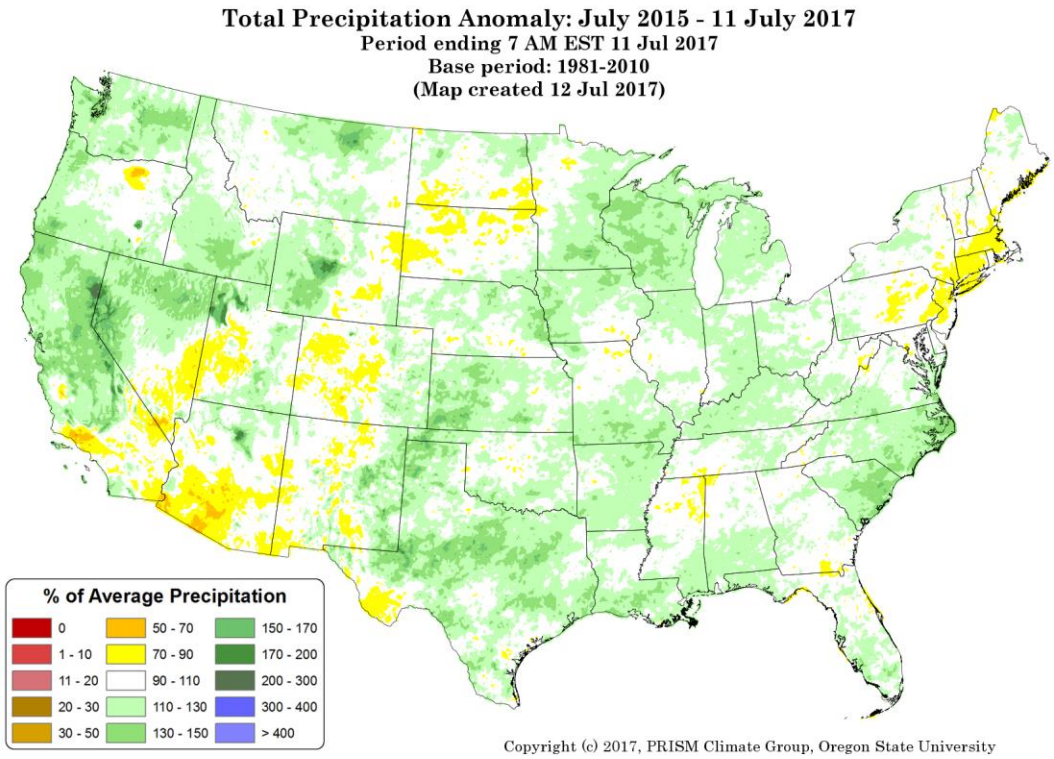

https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20170701/CurMonMAT_2017Jun30_2017070117.png

https://www.nwrfc.noaa.gov/WAT_RES_wy_summary/20170701/CurMonMAP_2017Jun30_2017070117.png

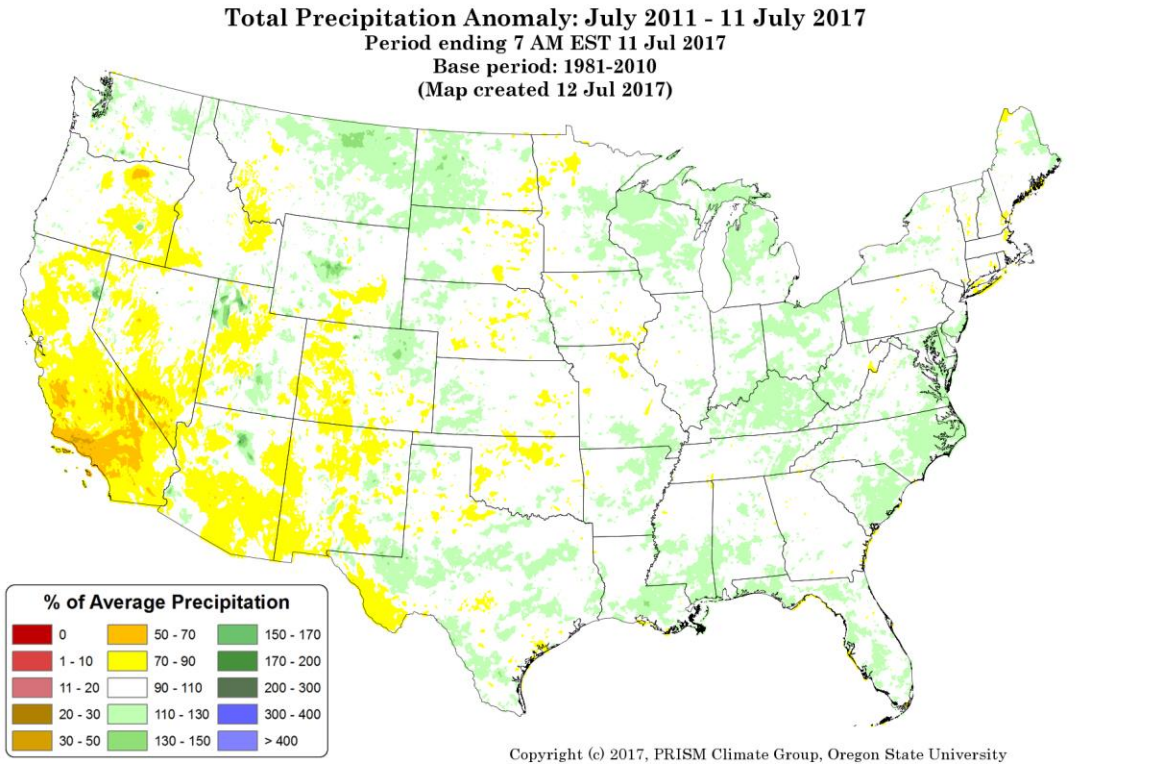



**http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecpctnormal_update.pdf**

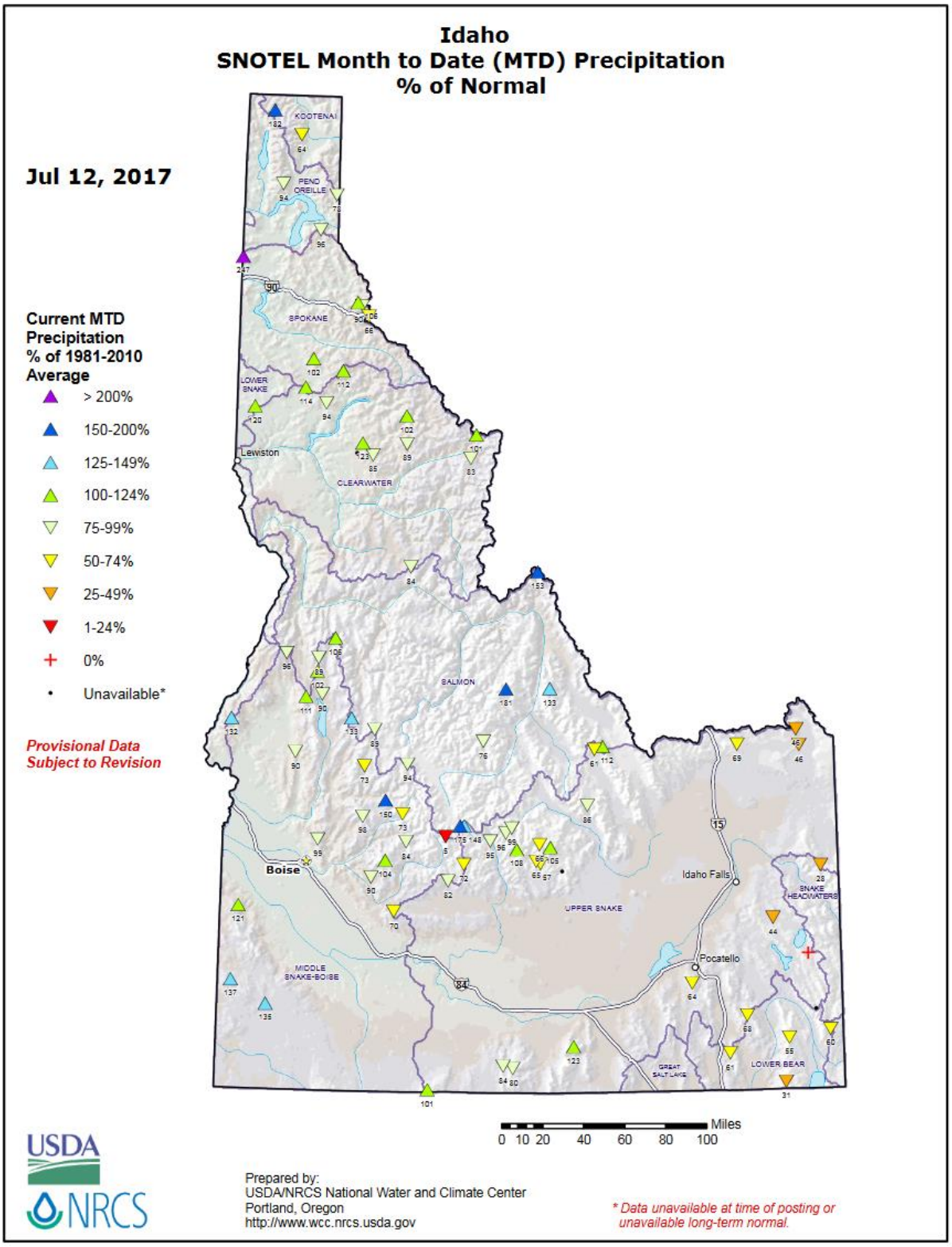
## Past 2 Years of Precipitation % of Average:



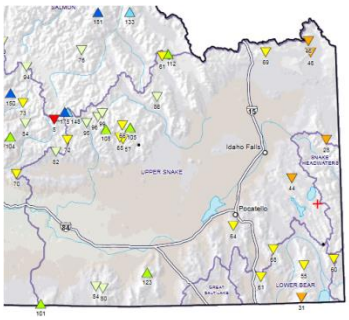

## Past 6 Years of Precipitation % of Average:




**www.prism.oregonstate.edu/comparisons/drought.php**

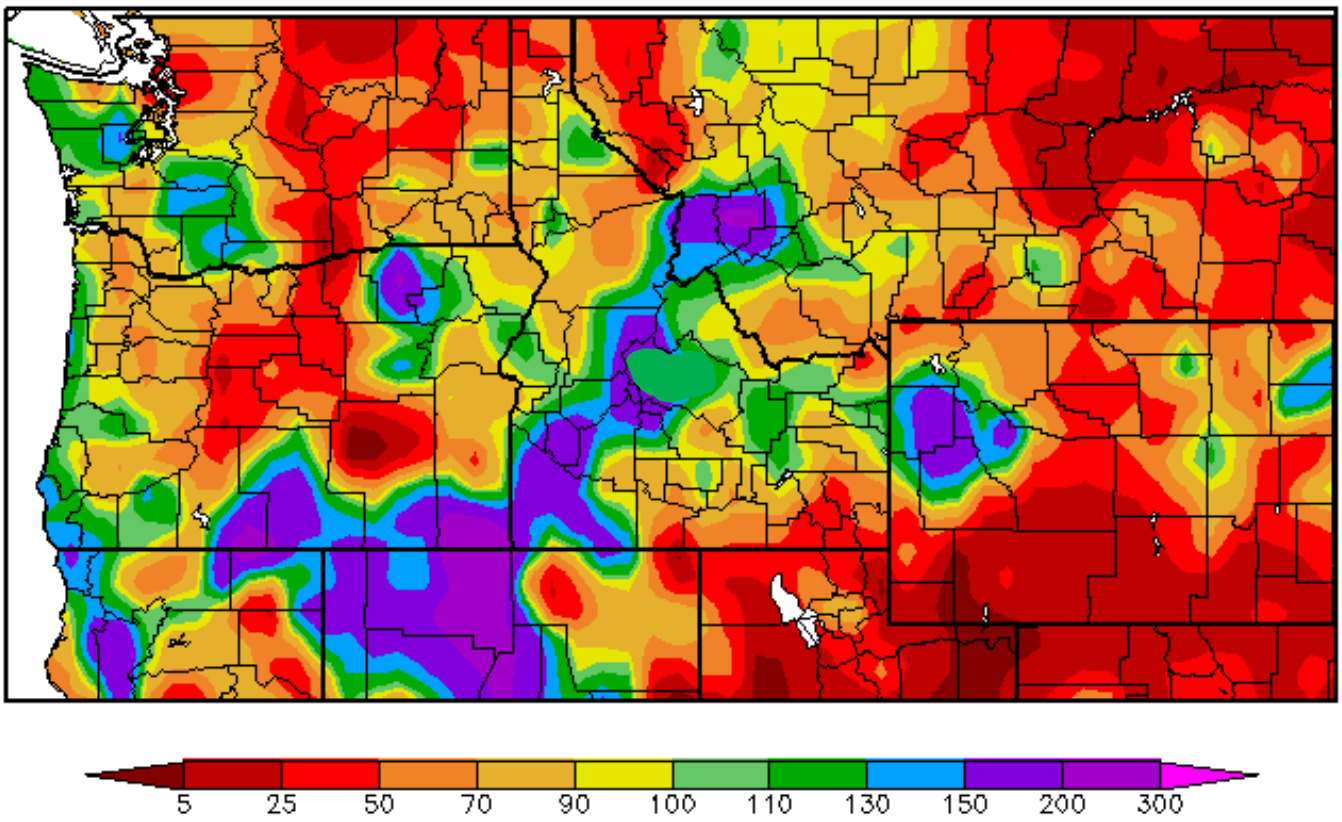



**http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecpctnormal.pdf**

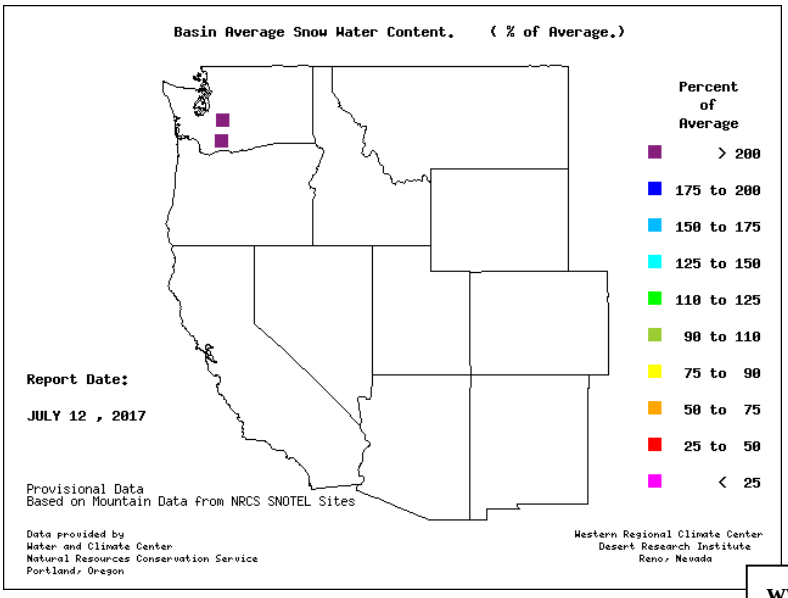


**SNOTEL MTD % of Normal Precipitation for middle of July 2017**
**(image is cropped from above image)**

Percent of Normal Precipitation (%)
6/1/2017 – 6/30/2017



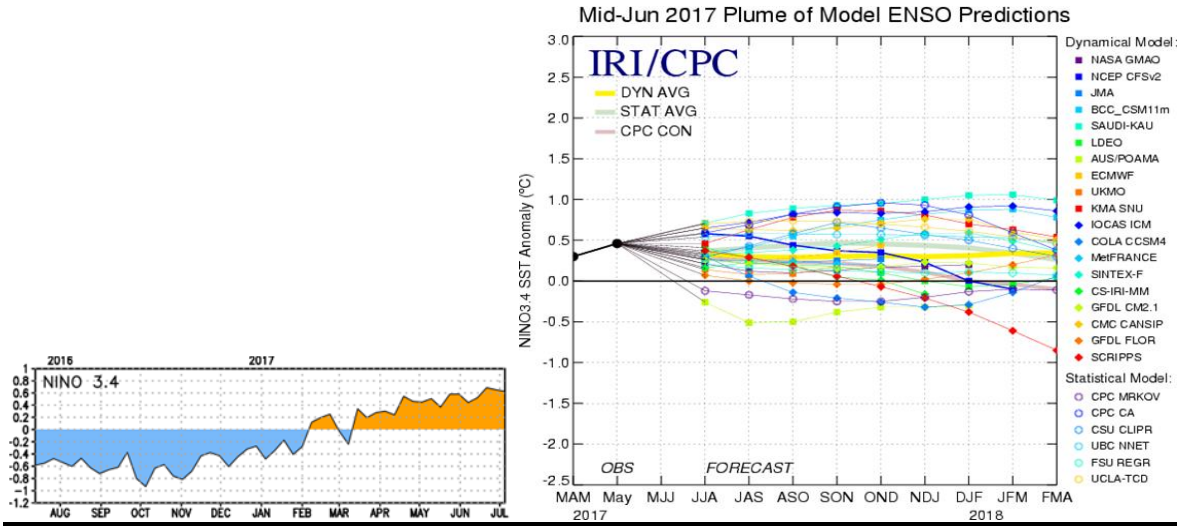

Most of our area received 25 to 90 percent of normal precipitation. Custer, Butte, Clark, Madison and Teton county, particularly in the mountains received near normal to around 130 percent of normal precipitation.




**www.wrcc.dri.edu/snotelanom/basinswe.html**

## ENSO Update:

**Latest Observed SST Departure:** Niño 3.4 ~ 0.6 Deg C




**www.cpc.ncep.noaa.gov**, **iri.columbia.edu/climate/ENSO**

**CPC Synopsis:** ENSO-neutral conditions are present. ENSO-neutral is favored (50 to ~55% chance) through the Northern Hemisphere fall 2017.

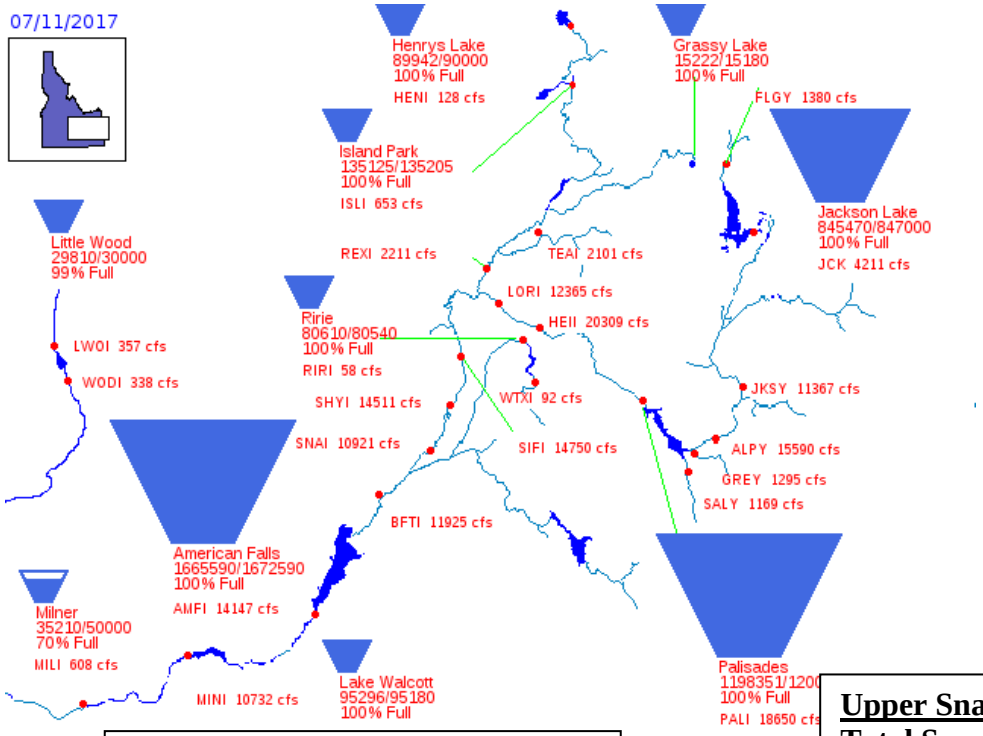
**Note:** Equatorial sea surface (SSTs) are near-to-above average across most of the Pacific Ocean. The Madden-Julian Oscillation (MJO) remains weak. The MJO is expected to remain fairly weak, though a weak signal could propagate eastward toward the West Pacific over the next two weeks, with some influence on the large-scale convective pattern. The Pacific Decadal Oscillation (PDO) remains slightly positive, decreasing slightly.

**Reservoirs:**

| Reservoir | % Capacity May 31[1] | % Capacity June 30[2] | Percent Change | % of Average[2] | % of Average Last Year[2] |
|---|---|---|---|---|---|
| Jackson Lake | 80 | 99 | 19 | 129 | 112 |
| Palisades | 59 | 100 | 41 | 116 | 98 |
| Henrys Lake | 97 | 101 | 4 | 106 | 103 |
| Island Park | 100 | 100 | 0 | 108 | 85 |
| Grassy Lake | 98 | 100 | 2 | 106 | 103 |
| Ririe | 101 | 100 | -1 | 116 | 115 |
| Blackfoot | 94 | 95 | 1 | 142 | 111 |
| American Falls | 98 | 100 | 2 | 130 | 69 |
| Mackay | 58 | 97 | 39 | 129 | 126 |
| Little Wood | 87 | 99 | 12 | 118 | 105 |
| Magic | 98 | 98 | 0 | 151 | 136 |
| Oakley | 80 | 70 | -10 | 164 | 77 |
| Bear Lake | 83 | 93 | 10 | 164 | 88 |
| Lake Walcott | 87[3] | 100[4] | 13 | n/a | n/a |
| Milner | 70[3] | 70[4] | 0 | n/a | n/a |

**Source:** (1) NRCS May 31, 2017; (2) NRCS June 30, 2017.
(3) US Bureau of Reclamation (BOR) June 16, 2017 (4) BOR July 12, 2017

**http://www.wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_7_2017.pdf**

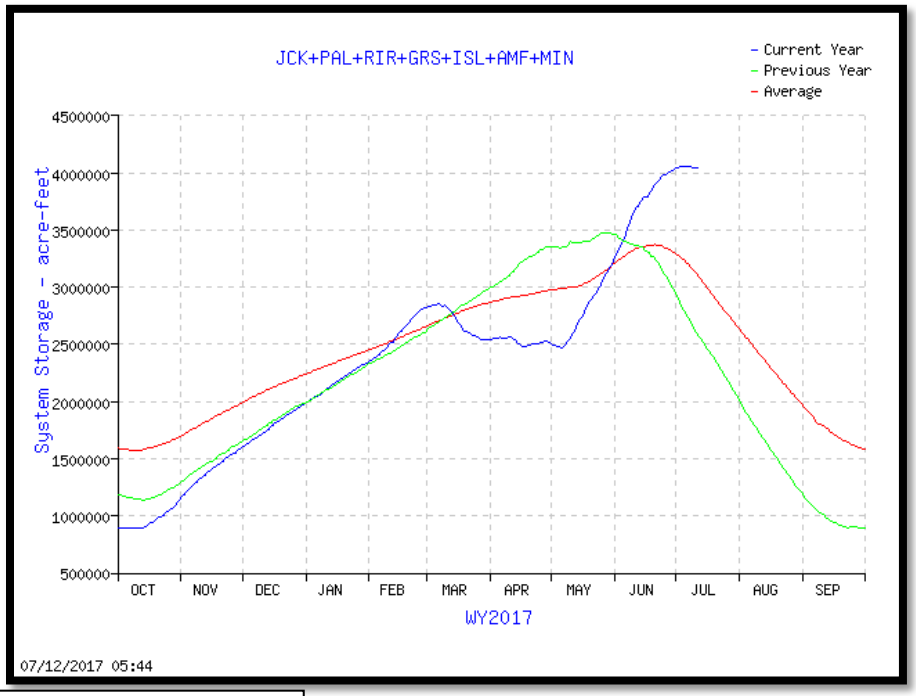



**www.usbr.gov/pn/hydromet/burtea.html**

**100% of Capacity in Upper Snake River System**
**(Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)**

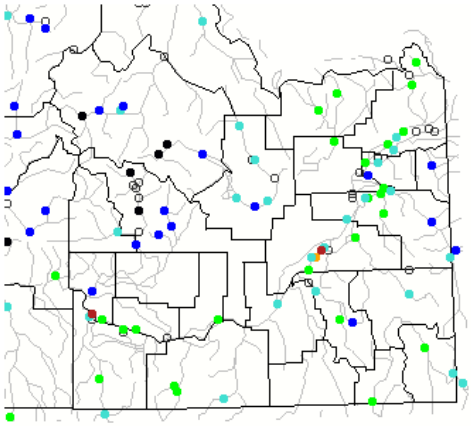
**Upper Snake River:**
**Total Space Available: 10,031 AF**
**Total Storage Capacity: 4,045,695 AF**

**Graph of Upper Snake River Current Total System Reservoir Storage**




**https://www.usbr.gov/pn-bin/graphwy.pl?snasys_af**

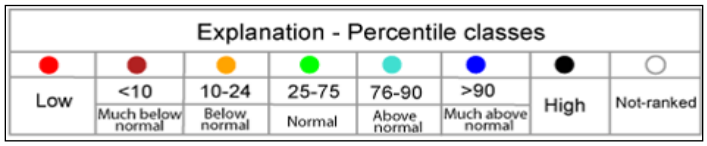
## Streamflow:



Monthly average streamflow compared to historical average streamflow for June 2017.

USGS

**https://waterwatch.usgs.gov/index.php?r=id&id=mv01d**

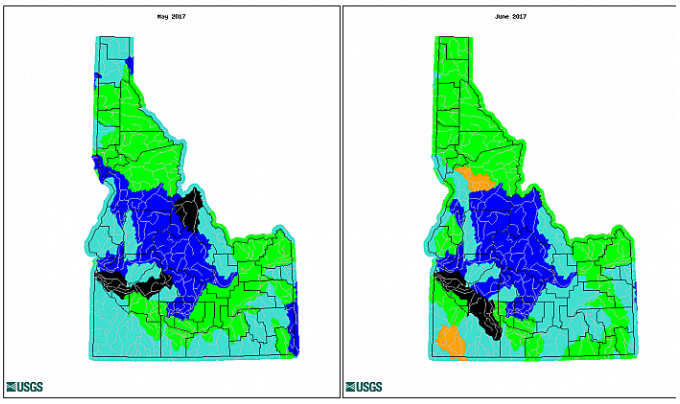


## Comparison of Streamflow Maps

Geographic area: Idaho | Water resource region: | GO

Map type: Monthly Streamflow (month of year) | Sub type: HUC Streamflow Map

Date (YYYYMM): 201705 Date (YYYYMM): 201706

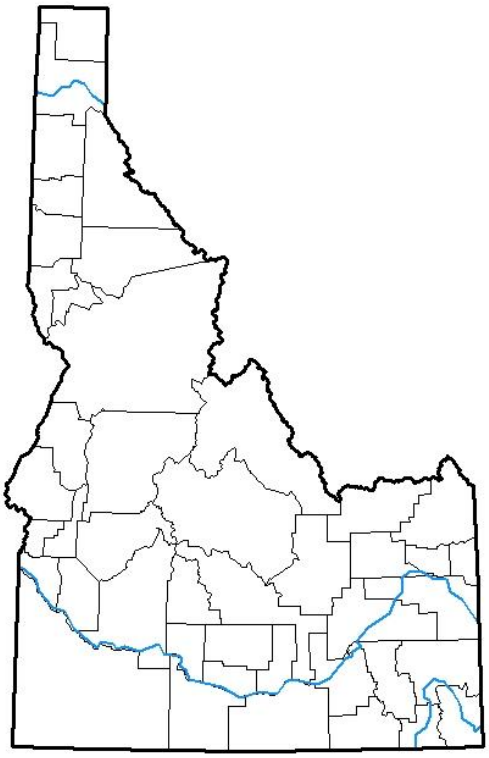



| Explanation - Percentile classes | | | | | | | |
|---|---|---|---|---|---|---|---|
| Low | <10 | 10-24 | 25-75 | 76-90 | >90 | High | No Data |
| | Much below normal | Below normal | Normal | Above normal | Much above normal | | |

http://waterwatch.usgs.gov/index.php?id=wwchart_map2

**Drought:**

## U.S. Drought Monitor
# Idaho



**July 4, 2017**
*(Released Thursday, Jul. 6, 2017)*
**Valid 8 a.m. EDT**

*Drought Conditions (Percent Area)*

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|---|---|---|---|---|---|
| **Current** | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Last Week** 06-27-2017 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **3 Months Ago** 04-04-2017 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Start of Calendar Year** 01-03-2017 | 89.98 | 10.02 | 0.04 | 0.00 | 0.00 | 0.00 |
| **Start of Water Year** 09-27-2016 | 6.14 | 93.86 | 8.89 | 0.00 | 0.00 | 0.00 |
| **One Year Ago** 07-05-2016 | 43.21 | 56.79 | 0.30 | 0.00 | 0.00 | 0.00 |

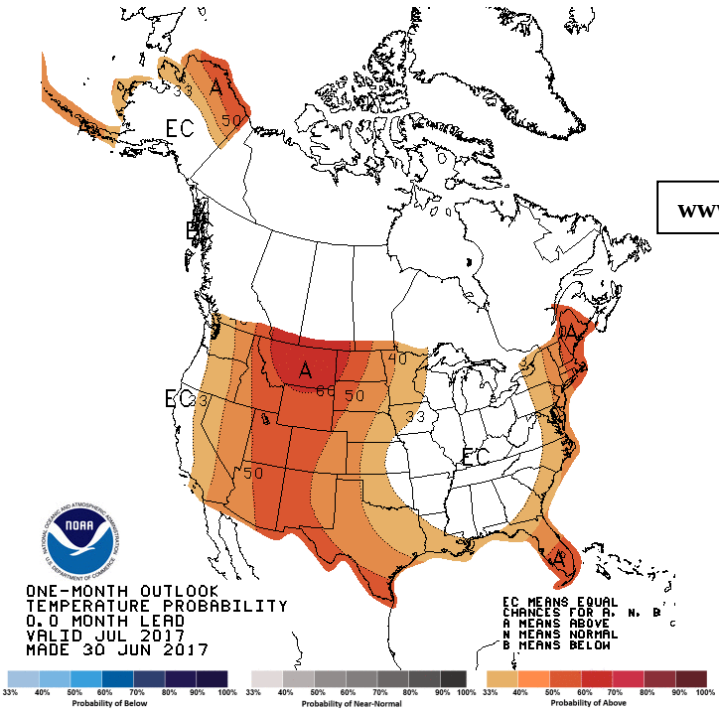
*Intensity:*

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

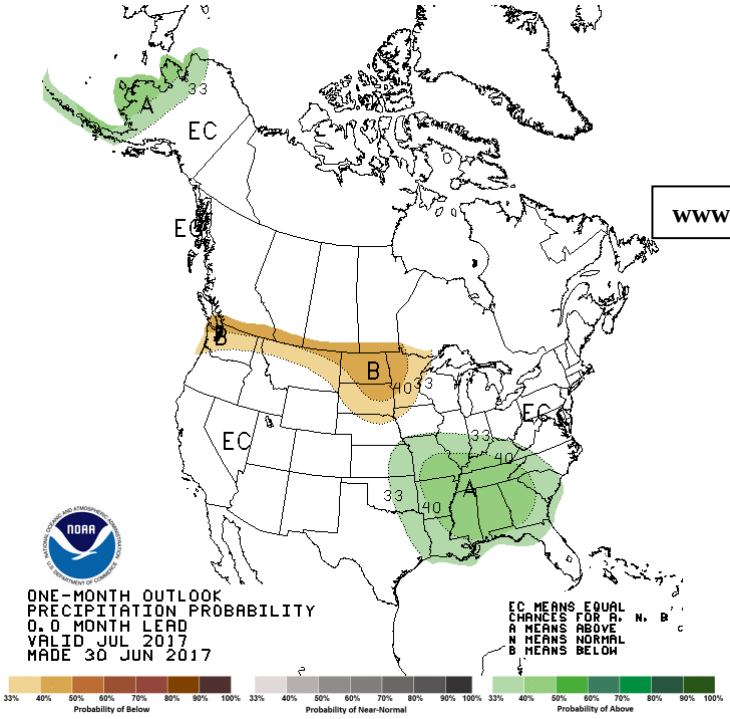
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

*Author:*
David Simeral
Western Regional Climate Center

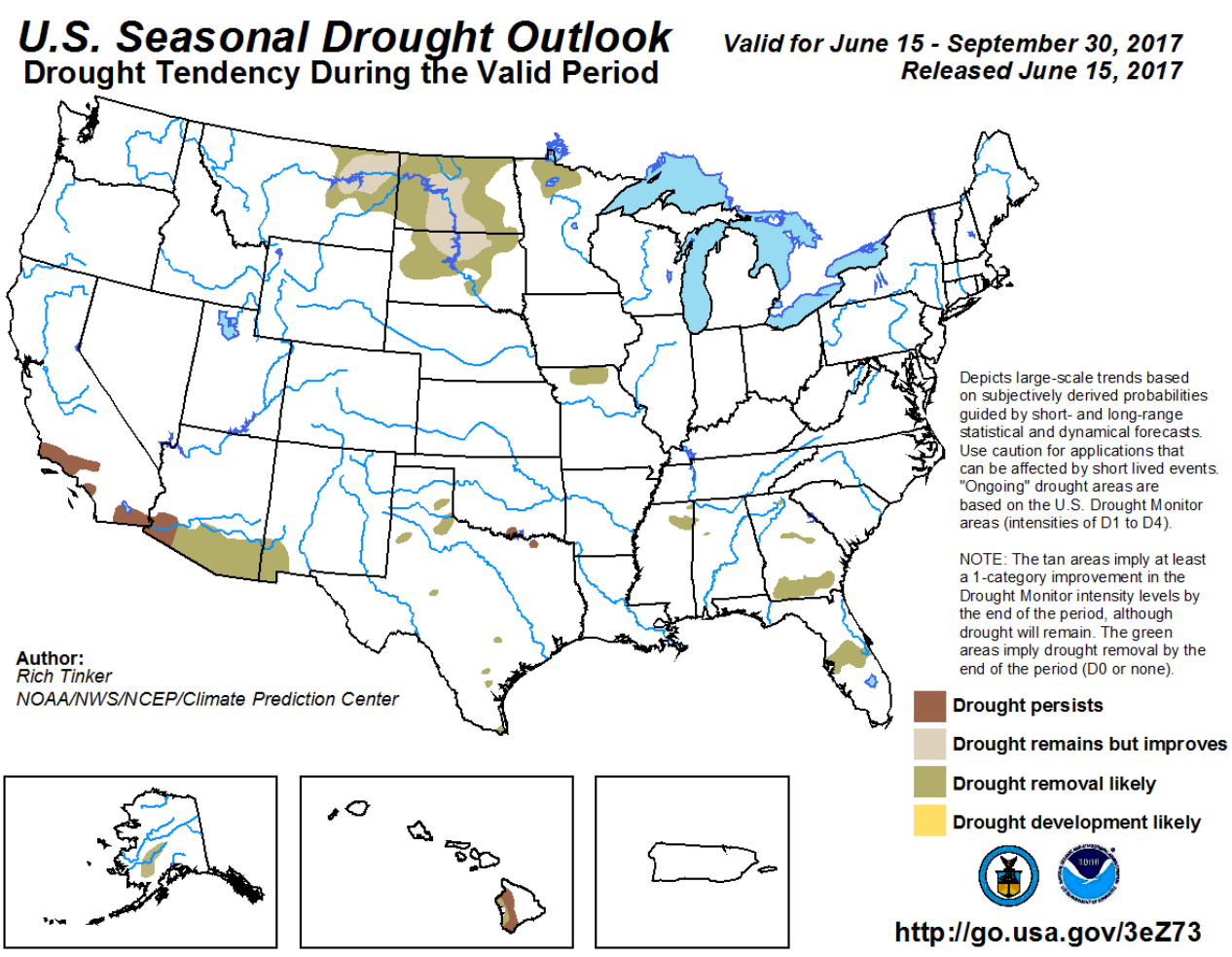
**http://droughtmonitor.unl.edu/**




**www.cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif**




**www.cpc.ncep.noaa.gov/products/predictions/30day/off15_prcp.gif**




**www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png**

cc:

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Michelle Stokes, Hydrologist-in-Charge, Colorado Basin River Forecast Center
Paul Miller, Service Coordination Hydrologist, Colorado Basin River Forecast Center
John Lhotak, Development and Operations Hydrologist, Colorado Basin River Forecast Center
Hydrometeorological Information Center
Dean Hazen, Meteorologist-in-Charge, Pocatello, Idaho
Kurt Buffalo, Science and Operations Officer, Pocatello, Idaho
Vern Preston, Warning Coordination Meteorologist, Pocatello, Idaho
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Kevin Berghoff, Senior Hydrologist, Northwest River Forecast Center
Taylor Dixon, Hydrologist, Northwest River Forecast Center
Brent Bernard, Hydrologist, Colorado Basin River Forecast Center
PIH Mets/HMT (pih.ops)

End

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